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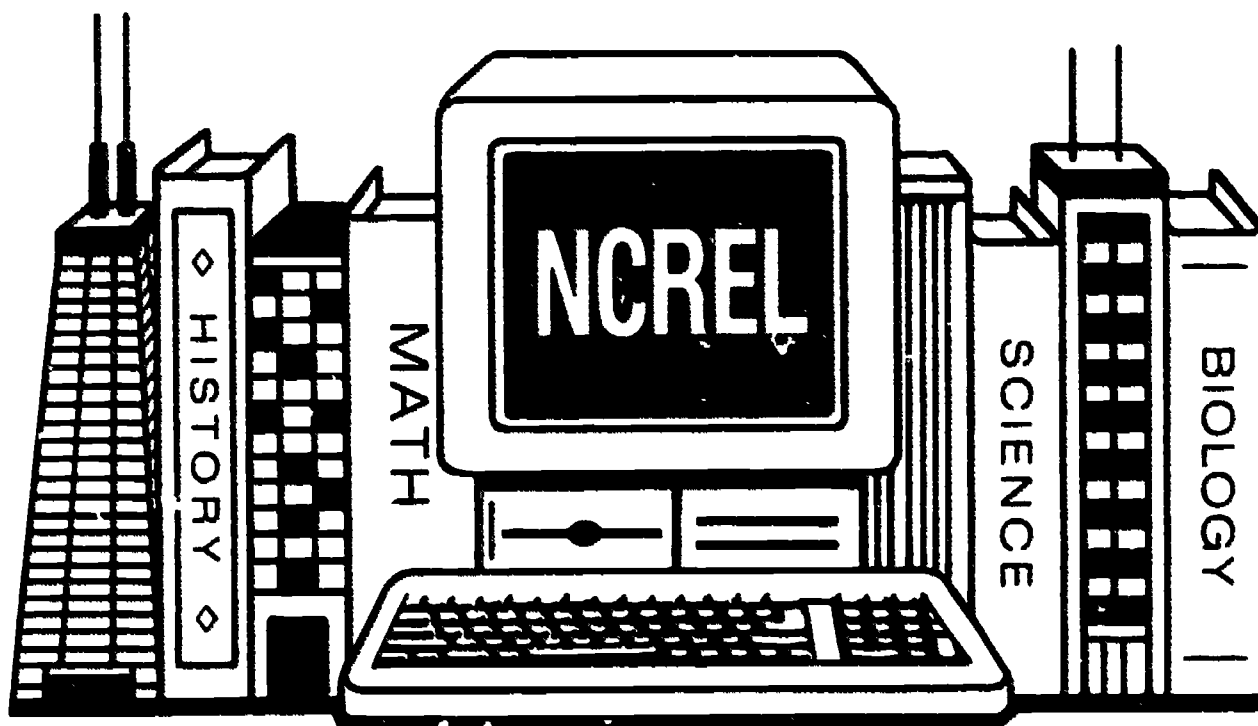
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## ABSTRACT

Highlights are presented from the Technology Expo and Conference held in Chicago by the North Central Regional Educational Laboratory (NCREL) on October 20-22, 1990. Approximately 400 teachers, principals, administrators, school board members, state education agency personnel, and local school council members attended the conference, which was a collaborative effort of the NCREL's Urban Education Network (UEN), the Chicago Public Schools, and the Illinois Institute of Technology. Sixty-seven presentations and demonstrations and more than 25 exhibits of effective uses of educational technology were presented at the conference. Conference workshops addressed strategies for incorporating technology into the classroom and curriculum to prepare students for roles and responsibilities of the 21st Century. In addition to describing the conference and presentations, this report presents the following items: (1) a position paper, "The Potential of Technology for Urban Schools" (Carole Fine); (2) a discussion of regional technology initiatives by the seven member states of the NCREL; (3) a list of persons serving as resources for technology use; (4) appendices describing the UEN and its education projects from 1991 through 1995; (5) acknowledgments of participating schools; and (6) advertisements. (SLD)

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NORTH CENTRAL REGIONAL EDUCATIONAL LABORATORY'S

# TECH EXPO and Conference 1990

## Urban Education Network POST-CONFERENCE YEARBOOK

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**The NCREL Urban Education Network presents its first Post-Conference Yearbook with highlights from the Technology Expo and Conference held October 20-22, 1990, in Chicago.**

**The Conference, "Technology To Improve Teaching and Learning in Urban Schools," featured exemplary technology-based educational programs from around the country. Numerous programs from cities in the region also were featured. A conference exposition showcased educational technology from leading vendors.**

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**Published in 1991 by the North Central Regional Educational Laboratory, 1990 Spring Road, Suite 300, Oak Brook, IL 60521 Jeri Nowakowski, Executive Director**

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## **An Introduction to NCREL**

The North Central Regional Educational Laboratory (NCREL) is a nonprofit organization devoted to supporting efforts of the educational community by bridging the gap between research and practice to provide effective instruction for all students. The Laboratory serves the seven states of Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin. NCREL is primarily funded through the Office of Educational Research and Improvement of the U.S. Department of Education.

### **■ Mission**

The NCREL Board of Directors has committed the Laboratory to support school restructuring to promote learning for all students most especially for students at risk of academic failure in the most rural and urban schools.

### **■ Major Program Areas**

#### **Curriculum, Instruction, and Assessment**

Beau Fly Jones, Director

#### **Early Childhood and Family Education**

Linda Kunesh, Director

#### **Midwest Regional Center for Drug-Free Schools and Communities**

Maxine Womble, Director

#### **Professional Preparation and Development**

Judson Hixson, Director

#### **Regional Policy Information Center (RPIC)**

Gordon Hoke, Acting Director

#### **Rural Education**

Gene Roth, Acting Director

#### **Technology and Information Services**

Dennis Gooler, Director

#### **Urban Education**

Beverly (B.J.) Walker, Director

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#### **Executive Director**

Jeri Nowakowski

Work includes:

- Use of print, video, and telecommunications technologies to deliver information
- Technical assistance and training
- Regional conferences
- Networks to link small groups of educators and policymakers devoted to a specific area
- State policy seminars
- Publication and dissemination of research-based information to practitioners and local schools

### ■ Urban Education in the Region

Over the next five years, NCREL has made a commitment to focus major programmatic efforts on urban education. This commitment results from the tremendous need for such work in the seven states the Lab serves.

As an institution, NCREL serves a region where over 22% of America's children go to school. Moreover, this vast region serves 13 of the very largest urban districts across the nation. Six of its cities are among the nation's 30 largest: Chicago (3rd), Detroit (7th), Indianapolis (12th), Columbus (16th), Milwaukee (17th), and Cleveland (24th). In 1987 and 1988, NCREL's 13 largest districts served over 2.2 million students, including 28% of all regional students served by Chapter 1 funding, 43% of those students included in the formula count for financial need, and a heavily weighted (or disproportionate) share of all students receiving free school lunches. Clearly, these cities are serving students who most need quality educational experiences.

Recognizing the urgent educational challenges facing urban school districts, the Lab has committed itself to the development, dissemination, and implementation of broadly based change strategies that promote improved learning for all students, especially those most at risk.

(See the Appendix for descriptions of FY91-95 Urban Education Projects in the NCREL region.)

## **Urban Education Network (UEN)**

### **■ Mission and Policy Statement**

The Urban Education Network is an urban school improvement network sponsored by NCREL and involving the seven state departments of education in the NCREL region and the largest school districts in each of these states. The primary purpose of the network is to improve the delivery of instruction and the acquisition of learning which occurs in urban schools. The network's emphasis is on school improvement and serving the educational needs of urban children.

The Network encourages SEAs and LEAs to identify common concerns and to share their implementation strategies in meeting these designated needs. The network also brings to bear the supportive resources existing within the NCREL region to work collaboratively with the large urban districts.

### **■ Members**

The Urban Education Network operates through representatives from participating districts and state departments of education.\* These include:

Illinois State Board of Education, Chicago Public Schools

Indiana Department of Education, Indianapolis Public Schools

Iowa Department of Education, Des Moines Public Schools

Michigan Department of Education, Detroit Public Schools

Minnesota Department of Education, Minneapolis and St. Paul Public Schools


Ohio State Department of Education, Akron, Cincinnati, Cleveland, Columbus, Dayton and Toledo Public Schools

Wisconsin Department of Public Instruction, Milwaukee Public Schools

### **■ Activities**

The UEN has committed itself to serve as a regional advocacy group for urban education in the NCREL region. Each year the network surveys its members for pressing urban issues. These issues are then featured in the UEN's activities for the coming year, which include:

- Regional conferences and policy forums
- UEN Regional Handbook, with conference highlights and regional urban programs and resources
- Annual membership directory

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- Published position and policy statements
  - Network membership and participation in the National Urban Alliance for Effective Education

\* Any urban district may request open membership status in the UEN. Send request to: B.J. Walker, Director, Urban Education, NCREL, 1900 Spring Road, Suite 300, Oak Brook, IL 60521  
(See Appendix for full membership listing of the UEN.)



## Conference Highlights

Some 400 teachers, principals, administrators, school board members, state education agency personnel, and local school council members attended NCREL's TECH EXPO and Conference, October 20-22, in Chicago.

The event, a collaborative activity of NCREL's Urban Education Network, Chicago Public Schools, and the Illinois Institute of Technology, featured 67 presentations and demonstrations plus more than 25 exhibits of the most recent and most effective uses of educational technology.

Conference workshops addressed strategies for incorporating technology into the classroom and curriculum to prepare students for roles and responsibilities of the 21st century. Many of the presentations featured practitioners from Chicago Public Schools and other local school districts in NCREL's region that are successfully implementing technologies. Strands included demonstrations and presentations pertinent to administration, staff development, instruction, effective grant writing, and Chicago's Local School Councils.

Keynote speakers included U.S. Assistant Secretary of Education Ted Sanders; Eric Cooper, Vice President of Inservice Training and Telecommunications for Simon and Schuster and Director of the National Urban Alliance for Effective Education; Robert Peterkin, Superintendent of Milwaukee Public Schools and Co-Chairman of the National Urban Alliance for Effective Education; Antonia Stone, Executive Director of "Playing to Win," Community Computing Center in East Harlem, NY; and Nola Whiteman, Director of Telecommunications and Media, New York Public Schools.

According to evaluation data, the most popular conference sessions were the National Urban Alliance's "Using Technology to Reach Urban At-Risk Students" and Brigitte Erbe's session on "Funding Technology Initiatives for LSCs and Community Organizations." Fully 30% of evaluation survey respondents reported that all of the sessions were valuable.

The conference theme, "Technology to Improve Teaching and Learning in Urban Schools," was excellent according to 67% of the respondents.

NCREL's foray into the trade show business was successful with more than 33% of the respondents rating the exhibit area and vendor demonstrations as excellent. All exhibitors who responded to the exhibitor evaluation survey indicated they were moderately pleased with the quality and quantity of contacts they made. Drawings for door prizes added to the excitement of the Expo, with donations from Apple Computer, Inc., IBM, and Zenith Data Systems.

To all the individuals who gave their time, energy, and expertise to ensure the success of the conference, NCREL gives special thanks. In particular, NCREL thanks the Urban Education Network, Chicago Public Schools, and the Illinois Institute of Technology for co-sponsoring the event; Apple Computer, Inc., for sponsoring two receptions, a dinner, and door prizes; IBM for sponsoring both a dinner with table favors and prizes, and the Turnkey Systems' representatives and presentation; Zenith Data Systems for donating a door prize; and all conference presenters and exhibitors.

### ■ Exhibitor List

**Academy for Mathematics and Science Teachers**  
Illinois Institute of Technology  
10 W. 35th Street  
Chicago, IL 60616  
(312) 808-0100

**Advanced Voice Technologies, Inc.**  
1865 Airline Drive, Suite 14  
Nashville, TN 37210  
(615) 885-4170

**Apple Computer, Inc.**  
6133 N. River Road, Suite 1000  
Rosemont, IL 60018  
(708) 518-2677

**Buddy System Project**  
1 North Capitol, Suite 925  
Indianapolis, IN 46204  
(317) 635-3058

**Computer Curriculum Corporation**  
205 W. Randolph St., Suite 830  
Chicago, IL 60606  
(312) 346-8861

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**Designs for Change**

(An Educational Research and Advocacy Group)

220 S. State St.

Chicago, IL 60604

(312) 922-0317

**Ed Tech**

1326 S. Michigan, Suite 107

Chicago, IL 60605

(312) 922-3565

**Educational Products Information Exchange (EPIE)**

P.O. Box 839

Water Mill, NY 11976

(516) 283-4922

**Electronic Information Exchange System (EIES)**

Chicago Public Schools

1819 W. Pershing

Chicago, IL 60609

(312) 890-8600

**Encyclopedia Britannica Educational Corporation**

310 S. Michigan Ave., 6th Floor

Chicago, IL 60604

(312) 347-7947

**ERIC Clearinghouse on Urban Education**

Box 40

Teachers College, Columbia University

New York, NY 10027

(212) 678-3015

**IBM Educational Systems**

1 IBM Plaza 12/103

Chicago, IL 60611

(312) 245-7738

**IBM/Prodigy**  
IBM Educational Systems  
1 IBM Plaza 12/103  
Chicago, IL 60611  
(312) 245-7738

**IIT's Interactive Multimedia Education Environment**  
Illinois Institute of Technology  
Stuart Building, Room 206C  
10 W. 31st Street  
Chicago, IL 60616  
(312) 567-5167

**Pioneer Communications of America**  
1263 Hamilton Parkway  
Itasca, IL 60143  
(708) 285-4500

**Tandy Corporation/Radio Shack Education Division**  
18230 S. Halsted Street  
Homewood, IL 60430  
(708) 799-9955

**TI-IN Network, Inc.**  
1000 Central Parkway North, Suite 190  
San Antonio, TX 78232  
(512) 490-3900

**Zenith Data Systems**  
1900 North Austin Avenue  
Chicago, IL 60639  
(312) 745-2180

# **The Potential of Technology for Urban Schools**

*Carole Fine, NCREL*

While distance learning was initially conceived as a solution to the problems of isolated, rural schools, it is also an effective response to many of the challenges faced by urban educators. Technology can provide all students with equal access to the broad range of course offerings too often restricted to those in urban middle class, magnet, and suburban settings. And distance learning, in the form of satellite or cable-based instruction, represents just a small portion of the instructional potential of technology. Moreover, we can harness technology to facilitate the efforts of teachers, administrators, and parents in a myriad of significant ways, e.g. to support staff development programs, to efficiently generate and disseminate crucial information, to link homes to schools, and to connect schools with community resources. We have only just begun to tap the full potential of technology to support schools.

Thus, technology supported education has become an imperative for those urban school systems that are committed to improving educational opportunities and outcomes. No longer just a luxury for affluent school districts, technology has become the most prudent solution to many problems that plague these districts. Therefore, it is no longer a question of if school systems will make increased use of technology, but when and how they will do so.

The resources available for teaching curricular concepts in urban centers are astounding in their richness and diversity. And yet, due to the limited financial resources of many districts as well as logistic considerations, many students never have the opportunity to take full advantage of these learning opportunities. Far too many students who live within miles of celebrated museums, universities, and research institutions may as well live hundreds of miles away for all that they benefit from these resources. Technologies such as two-way audio and video conferencing offer one pragmatic way to more effectively harness such resources and enrich the educational experiences of our urban youth.

Not only can technology connect students with local resources, but through the use of telecommunications urban classes can have personal contact with students across the country and, in fact, throughout the world. In an age of "satellite wars" it becomes increasingly important for students to understand the lives, cultures, and realities of their contemporaries around the globe. We cannot prepare students to be thoughtful and responsible citizens without giving them a broader perspective than that provided solely in their neighborhoods. Programs like Global Lab, an international environmental science project, and Kids Network, a telecommunications-based science and social studies program, provide students

with the opportunity to "meet" students from all over the world and to write and read their own "living textbooks" while working together on authentic, integrated curricula projects.

We must look beyond the use of technology as a tool to support and improve education, to the broader issue of the use of technology within society. To date, schools have not kept pace with, or come anywhere near usage in business and industry. While a variety of technologies (e.g. fax machines, computer conferencing, interactive audio and video) have transformed the way most businesses operate, schools have continued to rely primarily on more traditional "technology" such as chalk boards, text books, and lectures (Mecklenburger, 1990). There are a number of reasons for this lag. First, while cost effective over time, technology does require significant capital outlay. Moreover, if these purchases are to have a positive impact on students and staff, extensive training and support are required. But, in order to adequately prepare urban at-risk students for life after school, it is crucial that we recognize and address this discrepancy.

Tomorrow's adults must function effectively in a world that utilizes technology to develop, process, and manipulate information. Increasingly, to be a competitive member of the workforce, it is essential to have knowledge of common computer applications such as word processing and spread sheets, and experience with information services such as on-line databases. If urban districts do not provide this training, their students will be at even greater risk of not competing with students from more technologically sophisticated schools.

Technology also offers a cost effective and flexible means of supporting staff development programs. In recent years the need for sustained, personalized staff development has become generally accepted by educators. Yet, while we have recognized that it is unrealistic to expect teachers to alter their classroom behaviors without providing support to them as they move through the various stages of change, finding practical and timely ways of addressing this problem can be difficult. Additionally, we have acknowledged the isolation of most classroom teachers and their limited opportunities for professional dialogue with colleagues, and the impact of this isolation on professional growth. Technology can address these predicaments. Electronic bulletin boards and electronic mail, for example, have great potential for significantly diminishing this isolation while providing ongoing, classroom-focused support by linking teachers with other teachers, curriculum specialists, and noted experts.



One of the most underutilized uses of technology is reaching parents. Schools have long had problems connecting with students' homes. Programs such as TransParent use telephones to help schools let parents know about homework and other classroom activities. Teachers record messages on an answering machine and parents call from home to hear the message. No more guessing about whether your child has homework or not. Cable television is another potential electronic tool to link homes and schools. Many cities are experimenting with broadcast programming to transmit the latest educational information through talk shows, TV bulletins boards, and instructoral programs for both children and adults.

Clearly, urban schools can no longer afford to view technology as a frill. Unless they carefully plan for and implement an integrated approach for technology use to support student learning and staff development, they will be employing outmoded and ineffective tools to meet the challenges of the twenty-first century.

## **Regional Technology Initiatives**

The following section describes numerous examples of innovative technology programs operating in urban schools and districts in the North Central Region. Brief descriptions of these programs were provided by the State Departments of Education and by instructional technology coordinators in urban school districts throughout the region. To obtain further information on these programs, names and telephone numbers of principals and district technology specialists have been provided.

The following listing of technology programs is not intended to be all-inclusive. Rather, it is a sampling of resources and innovative programs that use varied technology and media in instruction, staff development, and educational support.



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## **Illinois**

### **■ Chicago**

Chicago's Educational Technology Support Center being installed at the Central Services Center provides an opportunity for all Chicago Public School employees and Local School Council members to evaluate and utilize various instructional and administrative computer delivery systems. Instructional technology available includes new and emerging, as well as existing computer-based delivery systems. Users will have an opportunity to have hands-on experience with Integrated Learning Systems, various hardware systems including networks, a myriad of software, and examples of the use of multimedia in education. In addition, the center provides connection to on-line systems such as CPS NET (formerly EIES), student information systems, e-mail, and financial and budget information.

☎ Contact Bernard Spillman at 312-535-8855 or Cliff Cox at 312-535-8601.

Novell, Appleshare, Digicard and Corvus networks facilitate delivery of computer-based instruction in schools. Novell networks are installed in more than one-half of Chicago's 70 high schools. These networks provide enhanced support for computer education core curriculum and other areas of instruction by providing common access to files stored on the server and to network printers. WordPerfect, VP Planner Plus, dBASE III Plus, Pascal, Cobol, BASIC, and Fortran are examples of programs stored on Novell networks in high schools. Appleshare, Digicard, and Corvus are the networks found in approximately 300 elementary schools. These Apple-based networks support computer-delivered instruction across the curriculum.

☎ Contact Pat Derosier at 312-535-8665.

Integrated Learning Systems are installed in about 250 Chicago schools. The management components of these systems and the facility with which they individualize instruction have made them the choice for a broad range of learning activities, including the development and reinforcement of English skills in bilingual programs.

☎ Contact Pat Derosier at 312-535-8665.

IBM is in the process of providing networked computers for every classroom in Guggenheim and Walsh, two Chicago elementary schools. These schools also have special purpose computer labs that provide a full range of technology-based instruction.

☎ Contact Michael Alexander, Guggenheim Principal, at 312-535-3587, and Ronald Clayton, Walsh Principal, at 312-534-7150.

The Riis Elementary School has initiated a program to increase computer literacy among students, teachers, and parents in a partnership with the Rice Computer Education Center. The Rice Computer Center is a component of the Eisenberg Unit of the Chicago Boys' and Girls' Clubs and is adjacent to the Riis School. Students and teachers from Riis work on tutoring and training programs after school at the Center.

☎ Contact Susan Milojevic, Principal, at 312-890-8020 or Peter Mich, Director of the Boys' and Girls' Clubs Computing Center, at 312-829-1112.

Through a partnership with the McCormick Unit of the Chicago Boys' and Girls' Club, the McCutcheon Elementary School students are able to use Apple computers after school and receive instruction and tutoring on various application software. This prototypical after-school educational center integrates computer practice activities with homework lab, referred to as an "electronic study hall." There is an Apple computer in each classroom at McCutcheon. Parents are an integral part of the linkage and the programs are designed to nurture their active participation. Mini-grants are available to McCutcheon teachers for innovative programs in the areas of reading, writing, and language arts.

☎ Contact Edward Ploog, Principal, at 312-534-2680.

Students at the Paul Revere Elementary School publish and distribute a quarterly newspaper and bi-monthly newsletter to students, parents, community members, and staff. Computerized production of the newspaper works as a vehicle to improve students' skills in reading, comprehending, using, and preparing written materials.

☎ Contact Dean K. Gustafson, Principal, at 312-535-0618.

Every Chicago Public School can access Project Inform, an on-line database system that holds ERIC, Grolier's Encyclopedia, Peterson's College Guide, the entire budget database, and the card catalog of the Chicago Public Library and other school libraries at no connect charge. Most of the computers are currently located in school offices, but are expanding to school libraries so that students can conduct research from these databases.

☎ Contact Jared Fox at 312-535-8660.

### ■ Chicago Heights

The Gavin Elementary School project uses an integrated and holistic curricula format, focuses on "earth science," and implements "Learning Across the Curriculum Concepts." It is designed to be an innovative way to increase academic achievement. School personnel work as a team to design a curriculum which includes coordinated science, mathematics, computer literacy, and language arts coupled with parenting and teacher inservice. About 400 students use computers with ease through this program. Students in grades four, five, and six have hands-on experience in a twenty-five IBM unit computer lab located in the adjacent Bethel Community facility. Inservice and training for teachers is provided by IBM and Bloom Township High School.

☎ Contact Yvonne Robinson, Principal, at 708-756-4153.

### ■ North Chicago

At Novak-King Elementary School, the HUGS program (Helping Upper Grade Students) provides after-school tutorial assistance for upper grade students to improve reading scores. Thirty students who demonstrated a need for a planned program of assistance have been selected as project participants. Since the regular reading program has failed these students, the HUGS program will include a diagnostic/prescriptive approach with an individual plan for each participant; specialized staff development training on individualized computer-based instruction and learning styles; and a strong parent training component.

☎ Contact Curtis Dorsey, Principal, at 312-689-6336.

### ■ Springfield

Boosting Education for At-Risk Students (BEARS) has established a Computer Assisted Instructional (CAI) program in language arts at Matheny Elementary School. Its primary focus is the improvement of reading achievement levels and the enrichment of the reading and writing curriculum in a laboratory setting. The computer lab contains a network and management system developed for whole class and individualized instruction. KIDS (Kids Interest Discovery Studies) kits, a special feature of BEARS, are a set of multi-media materials organized around a theme which vary in difficulty and learning style. KIDS kits contain software, books, tapes, models, filmstrips, and other materials. Matheny also operates a Parent Literacy Program where parents can be trained and assisted on computers twice a week. Coalition members including the Central Illinois Light Company, the Springfield Urban League, Sangamon State University, and the PTO are integral to the BEARS program.

☎ Contact Elizabeth Nelson, Principal, at 217-525-3245.

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## **Indiana**

The Indiana Department of Education Access Network (IDEANET) provides toll-free, dial-up access to a statewide bulletin board conferencing system to Indiana schools. Teachers and administrators choose among more than 40 databases and conferences including NASA information, legislative news, curricular topics, school demographics, special interest groups, school psychology, software applications, library media programs, and adult and community education. Teachers can download data from the bulletin board conferences to their printers.

☎ Contact Mike Huffman or Cathy McMasters at 317-232-0808.

In Indiana's Buddy System Project, twelve schools participate in a home computer program. Students are assigned a computer to take home and encouraged to practice skills with the help and support of parents and family members. Students, teachers, and family members communicate with each other using commercial, on-line, information services.

☎ Contact Marvin Bailey at 317-231-7145.

In Indiana's Fourth Grade Project, fourth and fifth grade classes at 25 schools participated in a study of nine different model applications of technology. Applications included use of one computer per classroom to portable mini-labs using only application software.

☎ Contact Chris Franklin at 317-232-9108.

### **■ Indianapolis**

The Indianapolis Public Schools have two model technology schools, one Apple computer based and one IBM computer based. Both schools have access to a district-wide cable access network which sends programming to all the schools and allows classrooms from different schools to interact and communicate with each other.

☎ Contact John Kern at 317-226-4117.

The William McKinley Elementary School #39 (K-6) provides over 100 Macintosh computers for more than 650 students to use. There is a minimum of three computers in each classroom, which are used primarily for non-CAI application. Computers are utilized for interdisciplinary instruction and thematic projects that stimulate creative expression. McKinley has a Jostens Integrated Learning System Lab and integrates A/V production, laser disc and CD-ROM technology into the curriculum.

☎ Contact Gene Bennett, Principal, at 317-226-4239.

The Riverside Elementary School #44 (K-6) provides over 110 IBM computers on a distributive network for its 650 students and operates similarly to McKinley. Established in March 1991, this IBM technology-intensive environment is geared for creative applications of computers in instruction. Riverside also has a Jostens Integrated Learning System Lab.

☎ Contact Marsha Foley, Principal, at 317-226-4244.

Teachers use laser videodisc technology to create an interdisciplinary curriculum at Perry Township High School (grades 10-12) of Metropolitan School District. Laser videodisc programs draw social studies, language arts, business, science, and math together for high school students.

☎ Contact Jim O'Brien at 317-787-9404.

#### ■ Ft. Wayne

Washington Center Elementary technology magnet focuses on computer applications, including writing with computers and using on-line projects such as Kidsnet and IRIS.

☎ Contact David Flowers at 219-425-7602.

#### ■ Richmond

The Indiana Department of Education funds Hyper Teach at Dennis Middle School and Richmond High School. Teachers create hypercard courseware in content areas and catalog public domain and commercial stackware. This project is implemented in collaboration with Indiana University East.

☎ Contact Robert Poland at 317-973-3300.

#### ■ Lafayette

Lafayette School Corporation LearningSphere 2008 (grades 1-5) features a learner-focused, flexibly scheduled, media- and technology-rich environment for learning. Students and teachers have choices of topics, technologies, and times for learning and exploration in a multidisciplinary approach to education. By 1991-92, every teacher who requests one will have a computer on his or her desk.

☎ Contact Eileen Steele at 317-447-2378.



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## ■ Columbus

In Networking for Effective Writing (NEW), the Bartholomew Consolidated Schools (grades 2-8) have implemented a writing and telecommunications project that features peer tutoring, cross-grade-level communication, and electronic networking to university education students.

☎ Contact Larry Brackney at 812-376-4222.

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## Iowa

### ■ Des Moines

Twenty eight Iowa schools (two in Des Moines) participate in KidsNet, a National Geographic Society program funded by the Roy J. Carver Charitable Trust. Fifty-six classrooms engage in this telecommunications-based science program designed for students in grades 4 through 6. Students learn about different subjects such as acid rain and conduct experiments and authentic research in their community. The students share their research via computer telecommunications with 10-15 other national and international classes. Students analyze the collective data and find ways to share their findings with audiences beyond their classrooms. Teachers participating in this project received the hardware and software needed to run the program and training on how to use it in their classrooms.

☎ Contact Becky Timmerman, Technology Consultant, Iowa Department of Education, 515-281-4803.

The Des Moines Independent Community School District operates a fiber optic telecommunications network which provides cost-effective voice, data, and video service to a number of buildings. This is a cooperative effort with the Iowa Department of Communication, which provides a telephone to each teacher to improve communication with parents.

☎ Contact Tom Fergus, Information Systems Consultant, at 515-242-7039.

King Elementary and Perkins Elementary are combined magnet K-5 schools with an emphasis on science and math. Each school has a 14-station Apple IIGS lab and one Apple IIe computer in each classroom networked via Macintosh to improve instruction and provide networking opportunities for teachers.

☎ Contact Larry Streyffeler, Principal, at 515-243-1297.

Des Moines operates a distance learning project with US West to provide two-way video and audio service on fiber-optic cable between six high schools and Urbandale community schools.

NovaNet is a comprehensive, computer-mediated, instruction curriculum lab for three high schools and a bilingual elementary school. Through satellite downlink from the University of Illinois, the system provides instruction to limited English speaking students, special education students, and at-risk students.

Ten Des Moines high schools, six middle schools, and six elementary schools have access to CNN news and CNN wire service information through a computer network with the local cable system. Teachers can access CNN News Service study guides, and Spanish teachers, for example, can access news segments in Spanish via the Associated Press and other wire services, and then rebroadcast the stories over the PA at their school. The district expects all 60 schools to have this service by Fall, 1991.

☎ Contact William Schoenenberger, Coordinator of Technology, or Don Zile, Information Systems Consultant, Des Moines Independent Community School District, at 515-242-7677 about these programs.

East High School provides individualized math instruction in courses from general math to Calculus with networked IBM computer labs using IBM's Math Tools program.

☎ Contact Jerry Stillwell, Principal, at 515-242-7788.

Five high schools and ten middle schools offer computer labs with multiple work stations. These labs can accommodate 24 business education students per class. Each Lab provides a liquid crystal display screen for teachers to demonstrate word processing and other basic computer skills.

☎ Contact Robert Davitt at 515-242-7888.

Forty elementary schools have one-computer, Apple classrooms and use curriculum coordinated software to support all areas of instruction.

☎ Contact Linda King at 515-242-7634.

Three high schools, two middle schools, and four elementary schools have automated library circulation and use computers and library media software to automate circulation of media and library materials.

☎ Contact Pam Pilcher at 515-242-7809.

Forty elementary schools and ten middle schools offer computer mediated instruction with varied software packages for remedial reading and math students with Chapter I and district funds.

☎ Contact Sharon Castelda at 515-242-7731.

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## **Michigan**

### **■ Detroit**

Detroit has long been in the forefront of using technology in the classroom and in using distance learning in the district to provide instruction to children that might not be available in the traditional classroom setting. Detroit has also been selected to participate in the second round of Star School awards via TEAMS. The addition of TEAMS gives schools the opportunity to provide distance learning to a population not addressed in the previous programs —elementary and middle school students, staff and parents.

The High School Computer Applications Program (CAP) provides word processing, spreadsheets, and programming software to all high schools.

The Computer Uses in Elementary Schools (CUES) curriculum supplements math and reading programs for young students.

In each Computer Literacy Program (CLiP) microcomputer lab, teachers assist students in the use of computers to develop math and reading skills.

Dial-A-Drill is a computerized homework program which assists 4th grade students at home. Dial-A-Drill uses Computer Curriculum Corporation's Digital Speech System and Touch Tone telephones to provide students with drill and practice exercises in math and reading.

The Higher Order Thinking Skills (HOTS) program uses computers to enhance cognitive development of Chapter I students in grades 3-5.

The Remedial Computerized Assisted Program (ReCAP) uses computers and video technology to provide technology-intensive reading and math instruction for remedial classes.

Parents and Computers Teaching Students (PACTS) provides microcomputers, software, and training for parents of third grade students at their local schools.



The Computer Managed Instruction (CMI) Project is a computer system designed to support school management tasks for teachers and administrators.

Detroit's Software Library carries computer programs in all subject areas and for all grade levels pre-K through 12. Most run on Apple II computers, but there are some programs for Xerox, IBM PC, Macintosh, and IBM PCjr.

☎ Contact Geraldine Carroll, Supervisor of the Office of Instructional Technology, 313-494-0915, or Velma Walker, Department of Information Management, 313-494-1414, for more information on Detroit's instructional technology initiatives.

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## **Minnesota**

### **■ Minneapolis**

Three math-science-technology magnet schools in Minneapolis have been successfully using telecommunications to support and integrate math and science instruction.

☎ Contact Kay Elliason or Principal, Kathy Cahill, of Willard Elementary School at 612-627-2529; Shirley Hallberg or Principal, Birch Jones, of Franklin Middle School at 612-627-2869; Rebecca Scott or Principal, Harlan Anderson, of North High School at 612-627-2778.

North High School is also an Arts and Communication Magnet and offers students the use of graphic arts, audio, and video production equipment to do radio and TV programming.

☎ Contact David Tomlinson at 612-627-2778 about this program.

### **■ St. Paul**

The Saturn School of Tomorrow is a restructured high-tech, high-touch, and high-teach 4-8 grade school that provides a technology intensive learning environment. It is a cooperative venture linking the St. Paul Public Schools, the local teachers' union, higher education institutions, and private businesses. Students use state-of-the-art technologies including Integrated Learning Systems for reading, math, and other subjects; LEGO/logo systems for computer programming and robotics; videodisc systems to access high quality video libraries; and Discourse System for quality group-based instruction.

☎ Contact Dr. Tom King, Director, at 612-293-5116.

Six St. Paul schools have discourse interactive classrooms where both general and special education students can use the computer to engage in Q & A and discussion via a computer-driven classroom communication network. Each teacher uses the network to enhance student participation by monitoring and recording all responses, measuring proficiency levels, and delivering positive feedback.

☎ Contact Dr. Tom King, St. Paul Public Schools, 612-293-5116.

Frost Lake Technology Magnet has infused technology throughout curriculum and instruction in its K-6 program.

☎ Contact Anne Marie Erbes, Principal, at 612-293-8930.

Several Chapter I schools have implemented Jostens, Computer Curriculum Corporation, and WASATCH Integrated Learning Systems into classrooms for effective reading and math instruction.

☎ Contact Dr. Linden Johnson at 612-293-5168.

St. Paul Technical College provides uplink and downlink TV access to satellite programming. Commercial programming from the National Diffusion Network, for example, is available to the St. Paul community at the college site.

☎ Contact Dr. Donovan Schwichtenberg at 612-221-1300 x1364.

The Technology Literacy Center uses computer- and video-based instruction for adult education at multiple community based sites in St. Paul.

☎ Contact Dr. Terilyn Turner at 612-293-5250.

Como High School and Highland Park Complex (grades 7-12) use MicroBoss, a school-based microsystem to organize attendance data, discipline files, and scheduling programs.

☎ Contact Thel Kocher (pronounced Koh'r) at 612-293-5130.

## **Ohio**

Ohio is a member of the Satellite Educational Resources Consortium (SERC). More than 430 students are taking one or more of the ten courses provided via satellite by SERC. By using telephone, computer, and keypad technologies, students interact directly and immediately with their teachers on the TV screen. SERC is a partnership of educators and the public broadcasting service aided by private industry; universities; and local, state, and federal government resources.

☎ Contact Spencer Northup of the Ohio Department of Education at 614-752-8633 or SERC's toll free number 1-800-476-5091.

Eight instructional television (ITV) agencies provide programming, teacher resources, and inservice training to all Ohio schools. Over 800 hours of broadcast ITV programming are provided to elementary and secondary schools. All schools have access to annual scheduling guides, teacher guides and newsletters, and inservice training through ITV.

☎ Contact Spencer Northup of the Ohio Department of Education at 614-752-8633 for more information.

Eighty-six percent of Ohio school districts are members of the Ohio Education Computer Network (OECN). OECN offers a variety of computer services, primarily for school accounting. Schools are just beginning to use this microwave network and electronic mail software to share teaching strategies and lesson plans for professional exchange. The Ohio Department of Education is currently working to expand the use of the OECN in the Information Network for Ohio (INFOhio) Project. Through INFOhio, OECN will develop an electronic catalog of school library materials, operate a computer circulation and library management system, and offer electronic mail and access to electronic databases such as AppleLink and CompuServe.

☎ Contact Carl Carter, Ohio Department of Education, at 614-752-8694.

## **■ Cleveland**

Computer-based programs to improve reading and math operate in 27 Cleveland elementary schools.

☎ Contact Patricia Bowman-Jenkins, Compensatory Education Director, at 216-574-8406 for information about these programs.

One hundred twenty five schools, grades K-12, participate in the Computer Literacy Project which provides computers for students and a resource center and training program for teachers.

☎ Contact Frank Cotturo, Coordinator of Computer Education, at 216-861-1876.

[REDACTED]

The Parents and Students Together program trains parents on the use of computers for their children's learning and their own word processing in three Cleveland schools.

☎ Contact Frank Cotturo at 216-861-1876.

Cleveland operates a Math Problem of the Week bulletin board where more than 50 schools download problems for various grade levels (K-12) and work to solve them.

☎ Contact Bill Bauer at 216-441-8033.

There are four technology magnet schools (grades K-12) in Cleveland funded by federal magnet school assistance grants. Students and teachers use technology to assist learning in all subject areas.

☎ Contact Paul Karlin, Coordinator of Magnet Schools Programs, at 216-574-8696.

## ■ Columbus

The Apple Classroom of Tomorrow at West High School in Columbus provides 120 students (randomly selected) with Macintosh computers for home use and technology-based instruction at school. Four classrooms hold about 100 MacSE computers, Mac 2CXs, and Mac2Xs hooked up to modems, scanners, CD-ROM players, MIDI (mini-keyboards), and laser videodisc players. Students do multimedia presentations, publish newsletters in color, create electronic reports, learn robotics, create HyperStacks, and conduct research in a technology saturated environment.

☎ Contact Jane Pratt, Supervisor, at 614-365-5095, or Bob Howard Program Coordinator, at 614-365-5952.

Wickliffe Elementary School is a K-6 Macintosh Writing Resource School that has networked computers in each classroom. Students communicate with each other via electronic mail, sharing and developing their writing and research with students in other classrooms.

☎ Contact Steve DeLapp, Principal, 614-487-5150, or Jeanne Koehl, Instructional Supervisor, at 614-487-5146.

## ■ Cincinnati

The Writing Infusion Project in five Cincinnati schools places networked computers in language arts classrooms. Students create computerized writing portfolios on Macintosh computers and use Pagemaker desktop publishing software to create newsletters and other documents.

The Science Infusion Project in ten Cincinnati schools integrates interactive videodisc technology into biology instruction. The schools use the Optical Data Life Science Library, and will add the use of prepared Hypercard stacks and teacher/student created stacks in videodisc programming.

Porter Middle School integrates multi-media technology with the entire instructional process. Students use Hypercard to create stacks illustrating various concepts, and have access to networked computers in their classrooms, a CD-ROM encyclopedia, videodisc player, scanner, and MacRecorder units.

☎ Contact Anthony Valerius, Jr. of the Educational Technology Office at 513-369-4758 for more information.

## ■ Akron

Akron's Cooperative Learning in Education through Advanced Resources (CLEAR) program provides interactive technology and multimedia instruction to improve science education in two high schools, three middle schools, and four elementary schools. Central Hower High School, Ellet High School, Goodrich Middle School, Riedinger Middle School, Litchfield Middle School, Robinson Elementary, Leggett Elementary, Crosby Elementary, and Mason Elementary operate this program in conjunction with The University of Akron. The program is federally funded through the Eisenhower Fund for math and science education. Participating teachers share instructional strategies once a month, and the schools are planning to integrate electronic mail capabilities.

☎ Contact Christine Johnson at Central Hower at 216-434-3444 or Dr. Diana Hunn at the College of Education, The University of Akron, 216-972-7115/7681.

Fairlawn Elementary School (grades K-6) operates networked computers in each classroom through an Apple and MECC grant. Teachers use MECC's Management Master software, and experiment with Macintosh computers in all areas of instruction. Fairlawn has been recognized by MECC as one of their ten schools of excellence.

☎ Contact Bruce De Barr, Principal, at 216-864-3121.

Portage Path Elementary School (grades K-6) received one of Apple's Crossroads grants to install a telecommunications network that links students in every classroom with volunteer senior citizen mentors in a neighboring residential complex. Students share their writing and research with their senior mentors via electronic mail.

☎ Contact Karen Grindall at 216-535-4488.



## ■ Dayton

All of Dayton's elementary schools operate computerized writing and reading systems through IBM's Writing to Read program. Five elementary schools have a Computer Assisted Mastery Program (CAMP) utilizing Josten's Learning Systems Software to teach basic skills.

- ☎ Contact Sandra Kidd, Principal of Webster Elementary, at 513-224-1571; Sylvia Barrett, Principal of Ruskin Elementary, at 513-224-0828; Paul Bryson, Principal of Patterson-Kennedy Elementary, at 513-222-8913; Kenneth Dixon, Principal of Jackson Elementary, at 513-268-6781; and Tom Greenwood, Principal of Carlson Elementary, at 513-268-6848.

Several elementary schools provide integrated computer assisted learning programs for their students. Jane Addams Elementary and Fairview Elementary use WASATCH Learning Systems.

- ☎ Contact Alease Jones, Principal of Jane Addams, at 513-263-3586, and Edward Baumer, Principal of Fairview, at 513-276-2138.

Eastmont Elementary and McNary Elementary use Computer Curriculum Corporation Integrated Learning Systems.

- ☎ Contact Elizabeth Davis, Principal of Eastmont, at 513-254-8425, and Lee Barnes, Principal of McNary, at 513-263-5664.

Wogaman Elementary and Cornell Heights Elementary provide interdisciplinary instruction through Josten's computerized learning systems.

- ☎ Contact Malachi Williams, Principal of Wogaman, at 513-268-6751, and David Medlar, Principal of Cornell Heights, at 513-276-2194.

Patterson Cooperative High School has a Computer Curriculum Corporation integrated computer-assisted learning program and a WICAT computer learning system to teach basic reading and mathematics skills.

- ☎ Contact Lou Galiardi, Principal, at 513-222-6301.

Colonel White High School, Dunbar High School, and Belmont High School provide PLATO basic skills learning systems in reading and mathematics with 30-station computer laboratories. Belmont also has a computer sciences magnet program.

- ☎ Contact Craig Williams, Principal of Colonel White, at 513-276-2107; Leon Love, Principal of Dunbar, at 513-268-6893; and Richard Penry, Principal of Belmont High School, at 513-253-8881.

Funded by the federal government, Colonel White High School and Stivers Middle School use state-of-the-art Commodores for a magnet performing arts program.

☎ Contact Craig Williams, Principal of Colonel White, at 513-276-2107, and Tim Nealon, Principal of Stivers, at 513-223-3175.

With funds from Senate Bill 298, the Challenger Center at Kiser Middle School houses a technical space sciences learning program.

☎ Contact Barbara Minton, Principal, at 513-224-1753.

Longfellow Alternative School has a WICAT program, a cross-disciplinary learning system with an emphasis on basic skills.

☎ Contact Tom Webb, Principal, at 513-223-7700.

At Meadowdale Elementary, Jackson Elementary, MacFarlane Middle School, Kiser Middle School, and Dunbar High School, teachers and students use IBM learning programs in sciences. The IBM package utilizes multiple technologies, including modems and other interconnects with the local air force base and one local university.

☎ Contact Barbara Goins, Principal of Meadowdale, at 513-276-2104; Kenneth Dixon, Principal of Jackson, at 513-268-6781; James Dorsey, Principal of MacFarlane, at 513-224-7486; Barbara Minton, Principal of Kiser, at 513-224-1753; and Leon Love, Principal of Dunbar, at 513-268-6893.

All seven middle schools and fifteen of thirty-six Dayton elementary schools have IBM computer-assisted instruction labs.

☎ Contact Jacqueline Palmer at 513-262-2949 about programs at these schools.

For additional information about Dayton City School district's instructional technology initiatives:

☎ Contact Jacqueline Palmer at 513-262-2949.

## ■ Toledo

Three Toledo elementary schools operate WICAT Integrated Computer Labs to assist 4th grade students in building academic proficiency. Each Lab has 30 terminals connected by a file server. Students are scheduled in the Lab based upon standardized test results and teacher recommendations, and work according to their individual learning needs. This program is funded by the State of Ohio Research Grant and Chapter 2 funds.

☎ Contact Craig Cotner of the Toledo City Schools at 419-729-8422.

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## **Wisconsin**

### **■ Green Bay**

Eighteen school districts are members of the Northeast Wisconsin Telecommunications Educational Consortium (NEWTEC) which provides credit courses, staff development programming, and classroom enrichment programming via microwave network from a production studio at Southwest High School in Green Bay. For about two and one half years, NEWTEC has provided one inservice per week for K-12 teachers on topics such as whole language, integrating special education, cooperative learning, restructuring, reaching and involving parents, and at-risk students. Programming for students includes AP Calculus, Russian, and Japanese.

☎ Contact Roxanne Nys at 414-492-2678.

### **■ Madison**

The Madison School District provides interactive video technology for instruction and staff development to each of its 32 elementary schools, 8 middle schools, and 5 high schools. The district operates two cable channels — one 24 hours a day and the other from 8 a.m. to 4 p.m. Classrooms in the elementary and middle schools are wired for cable, and there are tele-classrooms in each high school wired for cable and phone. Uses of the Cable TV Station include the following:

Teachers can choose from hundreds of PBS programs to show in their classes. Based on a poll of teachers, station programmers make up a master recording schedule for an automated broadcast robot to coordinate the recording of about 150 programs per week. The studio also houses a master library of popular programs.

The studio has created original instructional videos for teachers and students, including a fifteen-part series of teachers modeling effective instructional strategies for elementary computer science classes. To accompany the videos, teacher guides, software, and learning activities are supplied. The studio also runs two-way audio and one-way video conferencing for teachers on various topics. For example, K-5 elementary teachers gather at their local high school tele-classroom to participate in a one hour video/audio conference to raise awareness on various issues.

Schools are able to downlink satellite TV programming, such as the Learning Channel, SCOLA (foreign language newscasts), and NASA programming via satellite dishes. Schools can also receive programming via the Instruction Television Fixed Service (ITFS) on a special broadcast signal. Local universities



and hospitals each have four channels and provide staff development video programming to Madison teachers through the ITFS signal to the district's cable channel. Madison schools recently imported Kodak's Masters of Photography program that provides audio conferencing with the photographers. Madison's cable studio is also used to broadcast teacher meetings, selected high school sports games, school board meetings, teacher recognition programs, and to provide information on various topics. One of the more popular programs was "Middle School: Where the Nicest Kids Behave in the Most Awful Ways."

Madison's studio provides user support by teaching teachers and students how to use video equipment through small group instruction in six-week classes, and answering any questions about purchasing equipment.

☎ Contact Mark Hanson at 608-266-6126 for more information.

#### ■ Milwaukee

Integrated learning labs using Computer Curriculum Corporation software support a remedial reading and math program administered through Chapter I funding. There are 33 labs at 28 sites throughout the district with 12 to 30 computers in each lab.

☎ Contact Ying-Ying Chen at 414-475-8887.

Early Childhood programs have received support from Writing to Read labs throughout the district. Sixteen new labs have been installed this year as a result of a statewide IBM grant program administered through the Governor's office.

☎ Contact Gayle Schmitz at 414-475-8090.

A public broadcasting radio station, WYMS 88.9 FM, which receives most of its funding from the Corporation for Public Broadcasting is owned and operated by the district. Students gain field experience in journalism, entertainment, and educational programming. There is a children's and parents' hour every night and ethnic programming on the weekend.

☎ Contact Roger Dobbrick at 414-475-8824.

The Milwaukee Public Schools district office houses the elementary and secondary cable consortium television studio. The consortium has a three-camera, BetaCam studio with a paintbox for special effects, and full function AB roll editing capabilities. The studio distributes consortium programming on one of the district's four ITFS channels which are available in every classroom in the district. Milwaukee has begun some teleconferencing using the one-way video capabilities of the ITFS

system in combination with the consortium studio and two-way audio using local telephones.

☎ Contact Bob Joyce at 414-475-8820.

Burdick Elementary School has received support for their music and technology program from an Apple Crossroads grant. Through the use of MIDI, CD-ROM, and HyperCard, students write musical compositions and integrate music into the rest of the curriculum. A Yamaha Music in Education Lab provides all students from 3rd to 8th grade with an opportunity to learn music using an electronic keyboard connected by a MIDI to a Macintosh IIfx computer.

☎ Contact Fred Polansky at 414-483-8200.

Elm Elementary School is a creative arts school where students use word processing to do creative writing. In the fall, Elm will move into a new building with a networked Macintosh lab and library catalog and circulation system.

☎ Contact Gail Duncan at 414-933-0305.

Fratney Elementary is a two-way bilingual school which has used Magnet Funds to develop a desktop publishing program in their library media center. Students put together their own writings in both languages using a Macintosh and Laserwriter. Fratney is in the process of adding an automated library catalog and circulation system.

☎ Contact Bob Peterson at 414-264-4840.

Garfield Elementary School has used Magnet Funds and contributions from Wisconsin Electric Co. to develop a Math and Science technology program. Their students work in an Apple IIe Lab with a Macintosh-Laserwriter-Scanner configuration. Students use videodisc and CD-ROM technology in the library. The Junior Astronauts utilize Prodigy, and KidsNet is used for telecommunications from 2nd to 5th grade. Writing to Read for K-1 and TLC for 3-5 are other programs used for instructional support.

☎ Contact Mille Vachon at 414-562-0555.

Hi-Mount Elementary School used Magnet Funds to acquire technology for a Whole Language/Holistic approach to reading and mathematics. All 19 classrooms have their own network and file server with a 2:1 Apple IIe-to-student ratio. Students also work in a Writing to Read lab, do desktop publishing with Creative Writing and Publishing Center, and interact with videodisc technology. Hi-Mount also operates an electronic bulletin board.

☎ Contact Dave Gawlik at 414-449-3314.

Lloyd Elementary School has received support from their business partner, *Milwaukee Magazine*, to set up a publishing center utilizing a Macintosh-Laserwriter-Scanner configuration in their Media Center.

☎ Contact Stephan Schneider at 414-562-5893.

Tippecanoe Elementary School uses Magnet Funds to implement their technology-based humanities program. Among their projects this year is a musical drama exploring the four humanities themes. Students used word processing to write a script about self-esteem, multiculturalism, positive role models, and environmental awareness. Various elements of the humanities curriculum use interactive video.

☎ Contact Tony Pedriana at 414-769-3220.

Victory Elementary School uses desktop publishing in the form of Children's Writing and Publishing Center to facilitate their individually guided education curriculum. LOGOWriter and Robotics are technologies students have explored.

☎ Contact Jim Radtke at 414-282-9050.

Burroughs Middle School has an elective computer skills class which includes wordprocessing, database, BASIC, LOGO, importing graphics from the reading lab, graphics design, and desktop publishing.

☎ Contact John Jaeger at 414-353-3220.

Stueben Middle School used Magnet Funds in the acquisition of a stand-alone Apple IIe Lab, and networked Macintosh and PS/2 labs for their technology program. Students begin with computer awareness, keyboarding, wordprocessing and LOGO in the 6th grade; progress to spreadsheets, databases, computer ethics and history, and some BASIC in the 7th grade; and advance to graphics, special projects, e-mail, electronic bulletin boards, careers in technology, and more BASIC in the 8th grade.

☎ Contact Russ Ziemer at 414-449-0395.

Marshall High School uses a three-camera color studio, S-VHS editing, and audio facilities for its broadcast and journalism program. Freshman and sophomore classes learn about careers in media and work with public access television; juniors produce commercials and musical programming for radio; and seniors gain career field experience at the district radio station, the educational consortium television studio, and commercial broadcast facilities.

☎ Contact Al Touissant at 414-461-8830.

South Division High School uses networked IBM computers to link the school office, guidance counselors, two instructional labs and every classroom to an AS/400 file server. Computer-managed attendance and counseling have improved teacher contact time and monitoring of student progress. Instructional applications include word processing, desktop publishing, and curriculum specific software.

☎ Contact Scott Temperly at 414-384-9900.

Washington High School has operated a technology program in conjunction with community business for more than a decade. Students work on computer skills ranging from business applications to explorations in robotics, interactive video, and CAD/CAM. Programming in BASIC, Cobol, and Pascal; computer ethics; and career opportunities are part of the varied curriculum. A self-directed VAX lab complements several instructional labs through the building.

☎ Contact Bob Nelson at 414-444-9760.

For further information on Milwaukee programs:

☎ Contact Dr. Mark A. Silverstein, Manager of Instructional Technology, Milwaukee Public Schools, 414-475-8279.

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## **Resources in Technology Use**

**Brian Callahan**

Learning and Intro Link  
Central Education Network  
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**Eric Cooper**

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**Bob Shayler**  
**FrEd Mail**  
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**(718) 768-1853**

## **Appendix**

### **NCREL'S Urban Education Network**

**Zulfi Ahmad**  
Director, Grants  
Administration  
Cincinnati Public Schools

**William Bean**  
Assistant Chief  
Bureau of School Administration & Accreditation  
Iowa Department of Education

**Eugene Cain**  
Assistant Superintendent  
Educational Equity and Community Services  
Michigan Department of Education

**James M. Coleman**  
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John Hay-West Tech Cluster  
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**Craig Cotner**  
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Department of Planning, Development,  
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**William Douglass**  
Assistant Superintendent  
Indianapolis Public Schools  
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**Joseph M. Frattaroli**  
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**Mark Fredisdorf**  
Preschool-Grade 5 Consultant  
Wisconsin Department of Education

**David W.M. Frye**  
Associate Superintendent  
Curriculum & Instruction  
St. Paul Public Schools

**Mae Gaskins**  
Associate Superintendent of Curriculum & Instruction  
Minneapolis Public Schools

**Betty Johnson**  
Chief of Office of School Assistance  
Indiana Department of Education

**Mary Lynne Jones**  
Intercultural Programs  
Des Moines Public Schools

**Charles Newman**  
Assistant Superintendent  
Columbus Public Schools

**Donald W. McCarthy**  
Director, Research & Evaluation  
Akron Board of Education


**Harold MacDermot**  
Technology Curriculum Specialist  
Minnesota Department of Education

**Jerrie B. McGill**  
Assistant Superintendent, Curriculum, Instruction & Planning  
Dayton Ohio Public Schools

**Deborah McGriff**  
Deputy Superintendent  
Milwaukee Public Schools

**Robert L. Moore**  
Assistant Superintendent Public Instruction  
Ohio Dept. of Education





**Robert Sampieri**  
Chief Operating Officer  
Chicago Public Schools

**Allen Zondlak**  
Director of Planning  
Detroit Public Schools

## **NCREL'S Urban Education Projects, 1991 - 1995**

### **■ USAP School Restructuring Laboratories (Formerly ASAP)**

#### **Activities**

- Support for reforms in classroom instruction and assessment practices that improve achievement for urban students at risk of academic failure
- Interactive work with principals and teachers
- Development of research-based interventions
- Technical assistance in staff development and evaluation
- Networking of successful strategies across member schools

#### **Member Schools**

##### **Chicago, IL**

Guggenheim Elementary

DuSable High School

##### **Cincinnati, OH**

Merry Middle School

Gamble Middle School

##### **Cleveland, OH**

Anton Grdina School

##### **Columbus, OH**

Dana Elementary

Madary Elementary

##### **Dayton, OH**

Longfellow Academy

##### **Detroit, MI**

Greenfield Park Elementary

Cadillac Middle School

##### **Milwaukee, WI**

South Division High School

**Minneapolis, MN**  
**Hiawatha Elementary**  
**Anderson Elementary**

### ■ **Urban Principals Leadership Academy**

#### **Activities**

- Video and print-based leadership training for urban principals
- Application of recent research in multicultural education, early childhood education, multidimensional assessment, technology, and site-based management
- Video case studies of effective urban principals

### ■ **Urban Education Network**

#### **Activities**

- Exploration of innovative policy initiatives that target the needs and characteristics of urban school districts
- Exchange and networking of effective urban resources, programs, and strategies

### ■ **Technology Planning and Evaluation for Urban Schools**

#### **Activities**

- Study of how technology-based instructional programs can best improve learning for urban at-risk students
- Design of staff development training to support use of instructional technology

### ■ **NCREL Urban Education Staff:**

**BJ Walker, Director**

**Carole Fine, Program Associate**

**Robin LaSota, Program Assistant**

**Ava Rhivers, Secretary**

## **School Acknowledgments**

North Central Regional Laboratory would like to take this opportunity to thank all the schools for their participation and cooperation in making this technology exposition and conference the GREATEST!

**West Allis/West Milwaukee School District**  
Milwaukee, Wisconsin

**Penn-Harris-Madison School District**  
South Bend, Indiana

**School District of La Crosse Media Education**  
La Crosse, Wisconsin

**Colman Elementary School**  
Chicago, Illinois

**Dawes Elementary School**  
Evanston, Illinois

**Bogan High School**  
Chicago, Illinois

**St. Paul Public School**  
St. Paul, Minnesota

**DuSable High School**  
Chicago, Illinois

**Pitzker Elementary School**  
Chicago, Illinois

**Novak-King Elementary Schools**  
North Chicago, Illinois

**Washington High School**  
Milwaukee, Wisconsin

**Guggenheim Elementary School**  
Chicago, Illinois

**Cuyahoga Valley, Joint Vocational School District**  
Brecksville, Ohio

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**West Allis/West Milwaukee School District**  
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**Penn-Harris-Madison School District**  
South Bend, Indiana

**School District of La Crosse Media Education**  
La Crosse, Wisconsin

**Colman Elementary School**  
Chicago, Illinois

**Dawes Elementary School**  
Evanston, Illinois

**Bogan High School**  
Chicago, Illinois

**St. Paul Public School**  
St. Paul, Minnesota

**DuSable High School**  
Chicago, Illinois

**Pitzker Elementary School**  
Chicago, Illinois

**Novak-King Elementary Schools**  
North Chicago, Illinois

**Washington High School**  
Milwaukee, Wisconsin

**Guggenheim Elementary School**  
Chicago, Illinois

**Cuyahoga Valley, Joint Vocational School District**  
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